REMARKS

In the Office Action, the Examiner rejected the claims under 35 USC §103. The rejections are fully traversed below. The claims have been amended correct various typographical errors. Claims 3, 7 and 19 have been cancelled. New claims 62-63 have been added. Claims 1, 5-6, 8-17, and 20-63 are now pending.

Reconsideration of the application is respectfully requested based on the following remarks.

REJECTION OF CLAIMS UNDER 35 USC §103(a)

In the Office Action, the Examiner has rejected claims 1, 19, 20, 21, and 54-58 under 35 USC §103(a) as being unpatentable over Terrell et al, U.S. Patent No. 7,200,144 in view of Testardi, U.S. Pub. No. 2003/0140210 A1 ('Testardi' hereinafter). This rejection is fully traversed below.

Various embodiments of the invention support the virtualization of storage in a storage area network. This is accomplished through the use of one or more network devices capable of being placed in a data path between the hosts and the storage devices. As a result, neither the storage devices nor the hosts require additional software or hardware to support storage virtualization. Moreover, multiple network devices may simultaneously manage the virtualization of heterogeneous storage devices.

The pending claims implement storage virtualization, as claimed, on a per-port basis. In other words, selected ports of one or more network devices may implement virtualization functionality in hardware and/or software. Any number of ports on a switch can manage

virtualization of its own traffic. This allows a network's virtualization capacity to scale with the number of ports.

As recited in the claims, as amended, a port may request a lock of one or more physical storage locations prior to submitting a read or write command to the one or more physical storage locations. Moreover, as claimed in claims 20-28, a port may submit a lock request to another "master" port that manages all lock requests. This master port may also notify the requesting port when a lock request has been granted. The master port may similarly process "lock release" requests.

While Testardi does disclose the general use of locking, Applicant respectfully asserts that Testardi fails to disclose or suggest transmitting a lock request by a port of the network device (e.g., on a per-port basis). Moreover, Applicant respectfully asserts that Testardi fails to disclose or suggest that a port that transmits a lock request also be capable of performing additional virtualization functionality, as claimed. Thus, Applicant respectfully asserts that the cited references, separately or in combination, fail to disclose or suggest requesting a lock of physical storage locations on a per-port basis.

Moreover, with respect to claims 20-28, the cited references, separately or in combination, fail to disclose or suggest sending a lock request to a master port of a network device, where the master port is adapted for managing lock requests. Paragraph 0215 as cited by the Examiner does disclose a "master/slave vertical coherency" from the control path (CP) to the fast path (FP). However, this paragraph says nothing about sending a lock request to a master port of a network device. Similarly, paragraph 0391 merely discloses the master-slave relationship between FPs and the CP. The CP is described in this paragraph as "the master that coordinates and controls the one or more FPs to perform tasks." There is no indication that the FPs submits a lock request to the CP, where the CP is a master port of a network device. Similarly, there is no indication that the CP of the DVE submits a lock request to a master port of a network device. In fact, paragraph 0327 of Testardi states that "DVE1 may broadcast a point-to-point message to all DVEs indicated with sharing this particular portion of the global metadata using its local share list. Essentially, DVE1 is asking permission to acquire the lock for particular metadata portions or RMAP portions." Thus, paragraph 0327 of Testardi implies that a master port is not responsible for acquiring and releasing locks. As such, Testardi teaches away from contacting a single master port responsible for managing locks (e.g., rather than contacting multiple ports that "share" the portion of the data). As

such, Applicant respectfully asserts that the combination of the cited references would fail to operate as claimed. In view of the above, Applicant respectfully requests that the Examiner withdraw the rejection of the claims under 35 USC 103.

In the Office Action, the Examiner has rejected claims 3, 5-11, 13, 16, and 17 under 35 USC §103(a) as being unpatentable over Terrell and Testardi, and further in view of Lo et al, U.S. Publication No. 2002/0103943 ('Lo' hereinafter). This rejection is fully traversed below.

Applicant notes that the limitation recited in claim 3 has been incorporated into the independent claims. Applicant respectfully asserts that Lo fails to cure the deficiencies of the primary references. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of the claims under 35 USC 103.

In the Office Action, the Examiner has rejected claims 12, 14, 15, 22-48, 50-53, and 59-61 under 35 USC §103(a) as being unpatentable over Terrell and Testardi, and further in view of Blumenau et al, U.S. Patent No. 6,260,120, ('Blumenau' hereinafter). This rejection is fully traversed below.

Applicant respectfully asserts that Blumenau fails to cure the deficiencies of the primary references. Moreover, with respect to claims 22-28, Applicant respectfully asserts that Blumenau fails to disclose sending a lock request to a master port of a network device within a storage area network. Rather, Blumenau appears to disclose that locking and unlocking is performed by the cached storage subsystem, rather than contacting a master port of a network device. Accordingly, Applicant respectfully asserts that the combination of the cited references would fail to operate as claimed.

In the Office Action, the Examiner has rejected claim 49 under 35 USC §103(a) as being unpatentable over Blumenau, Terrell and Testardi, and further in view of Lo. This rejection is fully traversed below.

Lo teaches a network device, where the type of traffic is iSCSI. (See paragraph 0128). However, as set forth above, Applicant respectfully asserts that Lo fails to cure the deficiencies of the primary references. Accordingly, Applicant respectfully submits that claim 49 is patentable over the cited references.

Applicant respectfully submits that the independent claims are patentable over the cited references, separately or in combination. The dependent claims depend from one of the independent claims and are therefore patentable for at least the same reasons. However, the dependent claims recite additional limitations that further distinguish them from each of the cited references. The additional limitations recited in the independent claims or the dependent claims are not further discussed, as the above discussed limitations are clearly sufficient to distinguish the claimed invention from the cited reference. Thus, it is respectfully requested that the Examiner withdraw the rejection of the claims under 35 USC §103(a).

SUMMARY

If there are any issues remaining which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

Applicants hereby petition for an extension of time which may be required to maintain the pendency of this case, and any required fee for such extension or any further fee required in connection with the filing of this Amendment is to be charged to Deposit Account No. 50-0388 (Order No. ANDIP003).

Respectfully submitted,
BEYER WEAVER LLP

Elise R. Heilbrunn
Reg. No. 42,649

BEYER WEAVER LLP
P.O. Box 70250
Oakland, CA 94612-0250

Tel: (510) 663-1100